REMARKS

Claims 1-9, 12-16, 18-23, 25-27 and 30-34 are currently pending in the subject application, and are presently under consideration. Claims 1-9, 12-16, 18-23, 25-27 and 30-34 are rejected. Claims 1, 3, 4, 9, 26, 30, 31, 33 and 34 have been amended. Claims 2 and 32 have been canceled. Favorable reconsideration of the application is requested in view of the amendments and comments herein.

I. Claim Objections

Claim 30 is objected to for informalities. Appropriate correction has been made. Accordingly, withdrawal of this objection is respectfully requested.

II. Rejection of Claims 1-9, 12-15, 26-27 and 31-34 Under 35 U.S.C. §101

Claims 1-9, 12-15, 26-27 and 31-34 stand rejected under 35 U.S.C. §101 because the claimed invention is preemptive.

Claims 1-9, 12-15, 26-27 and 31-34 are not preemptive. Claims 1 and 31 have been amended to make explicit that which was believed to be implicit. Independent claims 1 and 31 have been amended to recite a processor that executes computer executable instructions, and that stored computer executable instructions are stored on a computer readable medium. Additionally, claims 1 and 31 have been amended to incorporate the subject matter of claims 2 and 32, respectively.

Applicant's representative respectfully submits that the holding by the U.S. Court of Appeals for the Federal Circuit ("Federal Circuit") in *In re Warmerdam*, supports the patentability of claims 1, 3-9, 12-15, 31 and 33-34. 33 F.3d 1354, 31 U.S.P.Q.2d 1754 (Fed. Cir. 1994). In *Warmerdam* the Federal Circuit held that:

> [t]he dispositive issue for assessing compliance with Section 101 in this case is whether the claim is for a process that goes beyond simply manipulating 'abstract ideas.', 33 F.3d 1354, 1360, 31 U.S.P.Q.2d 1754, 1759.

Independent claims 1 and 31 are system claims. In *Warmerdam*, the Federal Circuit held claims 1-4 of the appellant's application (which were method claims) to be nonstatutory. 33 F.3d 1354, 1360, 31 U.S.P.Q.2d 1754. However, in *Warmerdam*, claim 5 of the appellant's application recited a machine having a memory which contains data representing a bubble hierarchy generated by a method of any of the claims 1-4 of the appellant's application. 33 F.3d 1354, 1358, 31 U.S.P.Q.2d 1754. The Federal Circuit held that claim 5 of the appellant's application was for a machine, and was clearly patentable subject matter. 33 F.3d 1354, 1360, 31 U.S.P.Q.2d 1754. Applicant's representative respectfully submits that claims 1 and 31 of the present application are analogous to claim 5 of the application considered in *Warmerdam*. That is, claims 1 and 31 are system claims, which should be categorized as machines having executable algorithms for transforming parameters associated with a structured argument.

Moreover, in rejecting the claims (particularly independent claims 1 and 31), the Examiner contends that the claims clearly preempt the application of editing and displaying arguments in any conceivable language or representation of language for any conceivable subject displayed or edited in any conceivable way by a computer system (See Office Action, Page 3). However, the Examiner cited no legal authority to support this finding. In considering the issue of preemption, the Federal Circuit cited a legal test known as the Freeman-Walter-Abele test. *Arrhythmia Research Tech., Inc. v. Corazonix Corp.* 958, F.2d 1053, 1058, 22 U.S.P.Q.2d 1033 (Fed. Cir. 1992). In *Arrhythmia*, the Federal circuit held that the test for patentability (under 35 U.S.C. §101) requires no more than an algorithm be applied in any manner to physical elements or process steps, provided that its application is circumscribed by more than a field of use limitation or non-essential post-solution activity. *Id.*

Applicant's representative respectfully submits that amended claims 1 and 31 (substantially) recite a user interface that graphically displays a plurality of parameters to a user accessible display and receives input from a user defining a value of a selected parameter, wherein the plurality of parameters comprises a respective confidence value for a plurality of hypotheses. Applicant's representative respectfully submits that the recited confidence value can be used by a user to make decisions related to the recited hypotheses. The Specification of the

Application discloses that the systems can be applied to application in military and defense, industrial processes, design work, research, and corporate management. Therefore, amended claims 1 and 31 are related to arguments applied in to physical elements, namely, a user interface that displays a plurality of parameters. Therefore, Applicant's representative respectfully submits that independent claims 1 and 31, as amended, as well as claims 2-9, 12-15 and 32-34 depending therefrom, are directed to statutory subject matter.

Claim 26 has been amended to recite means for storing a structured argument, means for processing executable instructions and accessing the means for storing and means for graphically displaying a plurality of parameters, each having an associated value, the means for displaying comprising means for scaling a displayed argument model to a desired size. The amendments to claims 26 are supported by at least FIG. 6 of the present application which illustrates system memory 822 and a processing unit 821. Applicant's representative respectfully submits that amended claim 26 recites patentable subject matter for reasons similar to amended claims 1 and 31, since amended claim 26 recites means for graphically displaying a plurality of parameters, each having an associated value. Therefore, amended claim 26, as well as claim 27 depending therefrom is directed to statutory subject matter.

For the reasons described above, claims 1-9, 12-15, 26-27 and 31-34 should overcome this rejection. Accordingly, withdrawal of this rejection is respectfully requested.

III. Rejection of Claim 30 Under 35 U.S.C. §101

Claim 30 stands rejected under 35 U.S.C. §101 because the claimed invention is preemptive.

Similarly to amended claims 1 and 26, claim 30 recites a user interface that graphically displays a plurality of parameters comprising confidence values for a plurality of hypotheses. As stated above, a user interface that displays a plurality of parameters (comprising confidence values) constitutes patentable subject matter. Thus, claim 30 is directed to statutory subject matter. Accordingly, withdrawal of this rejection is respectfully requested.

IV. Rejection of Claims 16, 18-23 and 25 Under 35 U.S.C. §101

Claims 16, 18-23 and 25 stand rejected under 35 U.S.C. §101 because the claimed invention is preemptive.

Claim 16 (from which claims 18-23 and 25 depend) recites altering a display of confidence values of a hypothesis in real time to match an updated confidence value to each modification of a parameter. For the reasons stated above with respect to amended claims 1 and 26, claim 16 is directed to statutory subject matter since claim 16 recites altering a display of confidence values of a hypothesis. Accordingly, withdrawal of this rejection is respectfully requested.

V. Rejection of Claims 1-9, 12-15, 26-27 and 31-34 Under 35 U.S.C. §101

Claims 1-9, 12-15, 26-27 and 31-34 stand rejected under 35 U.S.C. §101 because the claimed invention lacks utility.

In rejecting claims 1-9, 12-15, 26-27 and 31-34, the Examiner argues that the Specification of the Application fails to disclose what specific and substantial areas of government policy the invention is useful, as well as how it is useful. Applicant's representative respectfully disagrees.

The Federal Circuit has held that drawings constitute an adequate description if they describe what is claimed and convey to those of skill in the art that the patentee actually invented what is claimed. *Cooper Cameron Corp. v. Kvaerner Oilfield Products, Inc.*, 291 F.3d 1317, 1322, 62 U.S.P.Q.2d 1846 (Fed. Cir. 2002). FIG. 4 of the Application clearly shows a very specific example of the present invention being implemented. In particular, FIG. 4 illustrates the present invention being used to analyze a hypothesis of whether or not North Korea is receiving long range missile assistance from Russia. Applicant's representative respectfully submits that one of ordinary skill would immediately appreciate the importance of a confidence value related to such a hypothesis. Such a confidence value could, for instance be used by a governmental official (e.g., the Secretary of Defense) to decide what course of action should be taken (e.g., change diplomatic strategies). Therefore, the present Application clearly discloses a specific

utility for the claimed invention. Thus, claims 1-9, 12-15, 26-27 and 31-34 do not lack utility. Accordingly, withdrawal of this rejection is respectfully requested.

VI. Rejection of Claim 30 Under 35 U.S.C. §101

Claim 30 stands rejected under 35 U.S.C. §101 because the claimed invention lacks utility.

In rejecting claim 30, the Examiner states that claim 30 is lacking utility in the same way that claims 1, 26 and 31 lack utility. As stated above with respect to claims 1, 26 and 31, FIG. 4 of the present Application clearly illustrates a specific implementation for the present invention. Thus, claim 30 does not lack utility as contended by the Examiner. Accordingly, withdrawal of this rejection is respectfully requested.

VII. Rejection of Claims 16, 18-23 and 25 Under 35 U.S.C. §101

Claims 16, 18-23 and 25 stand rejected under 35 U.S.C. §101 because the claimed invention lacks utility as it is directed to a mathematical abstraction.

In rejecting claims 16, 18-23 and 25, the Examiner states the result of stored executable instructions recited in claim 16 (from which claims 18-23 and 25 depend) is a mathematical abstraction (See Office Action, Page 7). Applicant's representative respectfully disagrees. As stated above, claim 16 recites altering a display of a confidence value of a hypothesis of interest in real time to match an updated confidence value in response to each modification of a parameter. A confidence value (which is altered in claim 16) is not a mathematical abstraction. Instead, the confidence value represents real world results for a given hypothesis, such as the hypothesis disclosed in FIG. 4 of the present Application. Therefore, claims 16, 18-23 and 25 are not merely directed to a mathematical abstraction, as contended by the Examiner. Accordingly, withdrawal of this rejection is respectfully requested.

VIII. Rejection of Claims 1-9, 12-15, 26-27 and 31-34 Under 35 U.S.C. §112, First Paragraph

Claims 1-9, 12-15, 26-27 and 31-34 stand rejected under 35 U.S.C. §112, first paragraph, as Applicants have not disclosed how to use the invention due to the lack of a specific and substantial utility.

In rejecting claims 1-9, 12-15, 26-27 and 31-34 under 35 U.S.C. §112, first paragraph, the Examiner relies solely on the rejection of claims 1-9, 12-15, 26-27 and 31-34 for lacking utility. Applicant's representative respectfully submits that since the rejection for lack of utility has been overcome, that this rejection should be withdrawn accordingly.

IX. Rejection of Claims 16, 18-23 and 25 Under 35 U.S.C. §112, First Paragraph

Claims 16, 18-23 and 25 stand rejected under 35 U.S.C. §112, first paragraph, as Applicants have not disclosed how to use the invention due to the lack of a specific and substantial utility.

In rejecting claims 16, 18-23 and 25 under 35 U.S.C. §112, first paragraph, the Examiner relies solely on the rejection of claims 16, 18-23 and 25 for lacking utility. Applicant's representative respectfully submits that since the rejection for lack of utility has been overcome, that this rejection should be withdrawn accordingly.

X. Rejection of Claim 30 Under 35 U.S.C. §112, First Paragraph

Claim 30 stands rejected under 35 U.S.C. §112, first paragraph, as Applicants have not disclosed how to use the invention due to the lack of a specific and substantial utility.

In rejecting claim 30 under 35 U.S.C. §112, first paragraph, the Examiner relies solely on the rejection of claim 30 for lacking utility. Applicant's representative respectfully submits that since the rejection for lack of utility has been overcome, that this rejection should be withdrawn accordingly.

XI. Rejection of Claim 26 Under 35 U.S.C. §102(b)

Claim 26 stands rejected under 35 U.S.C. §102(b) as being anticipated by "*Dialectic: Enhancing Essay Writing Skills with Computer Supported Formulation of Argumentation*", 1999, by Chryssafidou ("Chryssafidou"). Withdrawal of this rejection is respectfully requested for at least the following reasons.

Chryssafidou does not disclose means for updating modified parameter values and means for displaying in real time in response to user input, as recited in claim 26. In rejecting claim 26, the Examiner contends that a system feedback disclosed in Chryssafidou reads on this element of claim 26 (See Office Action, Page 11). Applicant's representative respectfully disagrees. The system feedback disclosed in Chryssafidou is provided on the structure of arguments only by request (See Chryssafidou, Page 10). In contrast, claim 26 recites means for updating the modified parameters in real time. Since Chryssafidou specifically discloses the system feedback is only provided by request, Applicant's representative respectfully submits that such a statement implies that, in contrast to the means for updating the modified parameters recited in claim 26, the system feedback disclosed in Chryssafidou is not updated in real time. Therefore, Chryssafidou does not disclose means for updating modified parameter values and means for displaying in real time in response to user input, as recited in claim 26. Accordingly, claim 26 is not anticipated by Chryssafidou and withdrawal of this rejection is respectfully requested.

XII. Rejection of Claim 1 Under 35 U.S.C. §103(a)

Claim 1 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Chryssafidou in view of "*An Argument-Based Agent System with KQML as an Agent Communication Language*", 2001 by Toda, et al. ("Toda"). Withdrawal of this rejection is respectfully requested for at least the following reasons.

Claim 1 has been amended to substantially incorporate the subject matter of claim 2. Since claim 2 was not rejected as being made obvious by the prior art, Applicant's representative presumes that claim 2 would be patentable over the cited art if rewritten in independent form.

Thus, Applicant's representative respectfully submits that amended claim 1 is patentable over the cited art. Accordingly, withdrawal of this rejection is respectfully requested.

XIII. Rejection of Claim 13 Under 35 U.S.C. §103(a)

Claim 13 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Chryssafidou in view of "*A Brief Introduction to Graphical Models and Bayesian Networks*", 1998, by Murphy ("Murphy"). Withdrawal of this rejection is respectfully requested for at least the following reasons.

Applicant's representative respectfully submits that the rejection of claim 13 was made in error. Claim 13 depends from claim 12, and is patentable for at least the same reasons as claim 12. Since claim 12 was not rejected as being made obvious (or being anticipated) by the prior art, Applicant's representative respectfully submits that claim 13, which depends from claim 12 cannot be made obvious by the prior art either. Moreover, in rejecting claim 13, the Examiner relies on Murphy solely for Murphy's disclosure of a Bayesian belief network (See Office Action, Page 14). However, the addition of Murphy does not make up for the aforementioned deficiencies of the cited art. Accordingly, withdrawal of this rejection is respectfully requested.

XIV. Rejection of Claim 14 Under 35 U.S.C. §103(a)

Claim 14 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Chryssafidou in view of "*A Prototype Belief Network-Based Expert System Shell*", 1990, by Wang ("Wang"). Withdrawal of this rejection is respectfully requested for at least the following reasons.

Applicant's representative respectfully submits that the rejection of claim 14 was made in error. Claim 14 depends from claim 12, and is patentable for at least the same reasons as claim 12. Since claim 12 was not rejected as being made obvious (or being anticipated) by the prior art, Applicant's representative respectfully submits that claim 14, which depends from claim 12 cannot be made obvious by the prior art either. Moreover, in rejecting claim 14, the Examiner relies on Wang solely for Wang's disclosure of Dempster-Shafer belief functions (See Office

Action, Page 15). However, the addition of Wang does not make up for the aforementioned deficiencies of the cited art. Accordingly, withdrawal of this rejection is respectfully requested.

XV. Rejection of Claim 16 Under 35 U.S.C. §103(a)

Claim 16 stands rejected under 35 U.S.C. §103(a) as being unpatentable over "*Precision Tree*", 2000, by HALLoGRAM ("Hallogram") in view of "*TableCurve 2D General Features*", 2002, by Systat ("Systat"). Withdrawal of this rejection is respectfully requested for at least the following reasons.

Hallogram taken in view of Systat does not teach or suggest altering a display of a confidence value of a hypothesis of interest in real time to match an updated confidence value in response to each modification of a parameter, wherein the display of the confidence value comprises a qualitative display of the confidence value, such that a non-numerical quality of a node associated with the hypothesis of interest is altered to illustrate a change in the confidence value, as recited in claim 16. In rejecting claim 16, the Examiner contends that node color is a qualitative display of a confidence value via a non-numerical quality of a node that is taught in Hallogram (See Office Action, Page 16). Applicant's representative respectfully disagrees. The nodes in Hallogram are color coded by node type, which can include logic nodes, chance nodes, end nodes, decision nodes, and reference nodes (See Hallogram, page 3, "Precision Tree Nodes"). There is no teaching or suggestion in Hologram to vary the color of the node according to the confidence value or any other value associated with the node. In Hologram, the node color, along with the node shape, is employed to distinguish among node types.

Systat does not make up for the deficiencies of Hologram. The Examiner cites Systat for Systat's disclosure of spreadsheet-like data editing with operation graphing of data when it is encountered (See Office Action, Page 16, citing Data Management Section of Systat). The Examiner contends that the cited section of Systat teaches updating a confidence value associated with a hypothesis of interest in response to a modification of a parameter (See Office Action, Page 18). Applicant's representative respectfully disagrees. Applicant's representative respectfully submits that the cited section of Systat does not bear any relationship whatsoever to

confidence values, as contended by the Examiner. Therefore, Hallogram taken in view of Systat does not teach or suggest the system recited in claim 16. Thus, Hallogram taken in view of Systat does not make claim 16 obvious, and therefore withdrawal of this rejection is respectfully requested.

XVI. Rejection of Claim 30 Under 35 U.S.C. §103(a)

Claim 30 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Chryssafidou in view of Hallogram. Withdrawal of this rejection is respectfully requested for at least the following reasons.

Chryssafidou taken in view of Hallogram does not teach or suggest a user interface that graphically displays a plurality of parameters, comprising respective confidence values for a plurality of hypotheses at a user accessible display, and the user interface receives input from a user defining a value of a selected parameter, wherein the plurality of hypotheses are displayed as colored nodes within a belief network, and the respective confidence values being represented by at least one of the brightness, hue and saturation of the node, as recited in claim 30. The Examiner admits that Chryssafidou fails to teach or suggest this element of claim 30, but contends that Hallogram makes up for the deficiencies of Chryssafidou (See Office Action, Page 18). Applicant's representative respectfully disagrees. Hallogram does not teach or suggest alternating the color of a node according to confidence value or any other value associated with the node. Instead, in Hallogram, the node color, along with the node shape, is employed to distinguish among multiple node types allowed in Hallogram.

Moreover, the Examiner contends that payoff values disclosed in Hallogram correspond to confidence values (recited in claim 30), but the figure on Page 5 of Hallogram clearly illustrates that all end nodes are the same shade of blue despite varying payoff values listed beside the nodes. Thus, Chryssafidou taken in view of Hallogram does not teach or suggest a user interface that graphically displays a plurality of parameters, comprising respective confidence values for a plurality of hypotheses at a user accessible display, and the user interface receives input from a user defining a value of a selected parameter, wherein the plurality of

hypotheses are displayed as colored nodes within a belief network, and the respective confidence values being represented by at least one of the brightness, hue and saturation of the node, as recited in claim 30. Accordingly, Chryssafidou taken in view of Hallogram does not teach or suggest the system recited in claim 30, and therefore, Chryssafidou taken in view of Hallogram fails to make claim 30 obvious. Thus, claim 30 should be patentable over the cited art, and withdrawal of this rejection is respectfully requested.

XVII. Rejection of Claim 31 Under 35 U.S.C. §103(a)

Claim 31 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Chryssafidou in view of Toda, and further in view of Hallogram. Withdrawal of this rejection is respectfully requested for at least the following reasons.

Chryssafidou taken in view of Toda and in further view of Hallogram does not teach or suggest a user interface that graphically displays a plurality of parameters, comprising a plurality of influence parameters representing a degree of logical relatedness between respective associated first and second hypotheses, at a user accessible display and the user interface receives input from a user defining the value of a selected parameter, wherein the influence parameters are displayed as connectors between respective first nodes, representing an associated first hypotheses, and respective second nodes, representing an associated second hypotheses, and a magnitude of a given influence parameter is represented by at least one spatial dimension of the associated connector of the influence parameter, wherein the plurality of parameters comprises respective confidence values for a plurality of hypotheses, as recited in claim 31. In rejecting claim 31, the Examiner contends that Hallogram discloses this element of claim 31. Applicant's representative respectfully disagrees. To support the Examiner's finding of obviousness, the Examiner contends that branch nodes disclosed in Hallogram correspond to connectors (as recited in claim 31), and the probability value at a given branch disclosed in Hallogram correspond to influence values (as recited in claim 31). Applicant's representative respectfully submits that the Examiner has misinterpreted claim 31. It appears that the Examiner is reading the term "spatial dimension" as a property of the influence value itself (e.g., defining the

dimensionality of a numerical vector), but the claim recites "at least one spatial dimension of the associated connector," which is an object displayed by the user interface. Accordingly, in claim 31, the length or thickness of the recited spatial dimension (e.g., lines) changes according to the magnitude of the influence value.

It is respectfully submitted that there is no difference in the spatial dimensions of the branch nodes or any of the lines connecting the nodes in the Figure on Page 5 of Hallogram that correspond to probability values or any other values discussed. In particular, the Figure on Page 5 of Hallogram illustrates branch nodes having different probability values, but similar dimensions, both in the nodes themselves and the lines connecting the nodes. In fact, in Hallogram, the only variation of the dimensions of the lines in the Figure on Page 5 of Hallogram appears to come from the layout of the decision network, as earlier branches have longer lines to separate the nodes in the next layer and allow room for later layers of the tree. Where there is no issue of space, the lines appear equal in length. Thus, Chryssafidou taken in view of Toda, and further in view of Hallogram does not teach or suggest a user interface that graphically displays a plurality of parameters, comprising a plurality of influence parameters representing the degree of logical relatedness between respective associated first and second hypotheses, at a user accessible display and receives input from a user defining the value of a selected parameter, wherein the influence parameters are displayed as connectors between respective first nodes, representing the associated first hypotheses, and respective second nodes, representing the associated second hypotheses, and the magnitude of a given influence parameter is represented by at least one spatial dimension of the associated connector of the influence parameter, wherein the plurality or parameters comprises respective confidence values for a plurality of hypotheses, as recited in claim 31. Therefore, Chryssafidou in view of Toda, and further in view of Hallogram does not make claim 31 obvious. Accordingly, claim 31 should be patentable over the cited art, and withdrawal of this rejection is respectfully requested.

XVIII. Rejection of Claims 32-34 Under 35 U.S.C. §103(a)

Claims 32-34 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Hallogram. Withdrawal of this rejection is respectfully requested for at least the following reasons.

As stated above, claim 32 has been substantially incorporated into amended claim 31. Accordingly, the rejection of claim 32 is now moot.

Applicant's representative respectfully submits that the rejection of claims 33-34 was made in error. Claims 33-34 depend from claim 31. In rejecting claim 31, the Examiner does not even contend that Hologram (by itself) makes claim 31 obvious. Thus, Applicant's representative respectfully submits that Hologram cannot make claims 32-34 obvious, since claims 33-34 depend from claim 31.

Additionally, Hallogram does not teach or suggest a plurality of hypotheses being displayed as colored nodes within a belief network, and respective confidence values being represented as at least one of brightness, hue and saturation of the color of the node, as recited in claim 34. In rejecting claim 34, the Examiner relies solely on decision tree figures disclosed in Hallogram. As discussed above, in Hallogram, node color and shape identifies the type of node (See e.g., www.hallogram.com/precisiontree). In contrast to the colored nodes recited in claim 34, nothing in Hallogram teaches or suggests that the color of the disclosed nodes have any relationship to a confidence value. Therefore, Hallogram fails to make claim 34 obvious.

For the reasons stated above, claims 33-34 should be patentable over the cited art. Accordingly, withdrawal of this rejection is respectfully requested.

CONCLUSION

In view of the foregoing remarks, Applicant respectfully submits that the present application is in condition for allowance. Applicant respectfully requests reconsideration of this application and that the application be passed to issue.

Please charge any deficiency or credit any overpayment in the fees for this amendment to our Deposit Account No. 20-0090.

Respectfully submitted,

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